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Renzo

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(54) **CLOTHES DRYER REVERSIBLE DOOR ASSEMBLY**

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(52) **U.S. Cl.** **34/603**; 34/595; 34/601; 49/381; 49/382; 49/463; 49/465

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See application file for complete search history.

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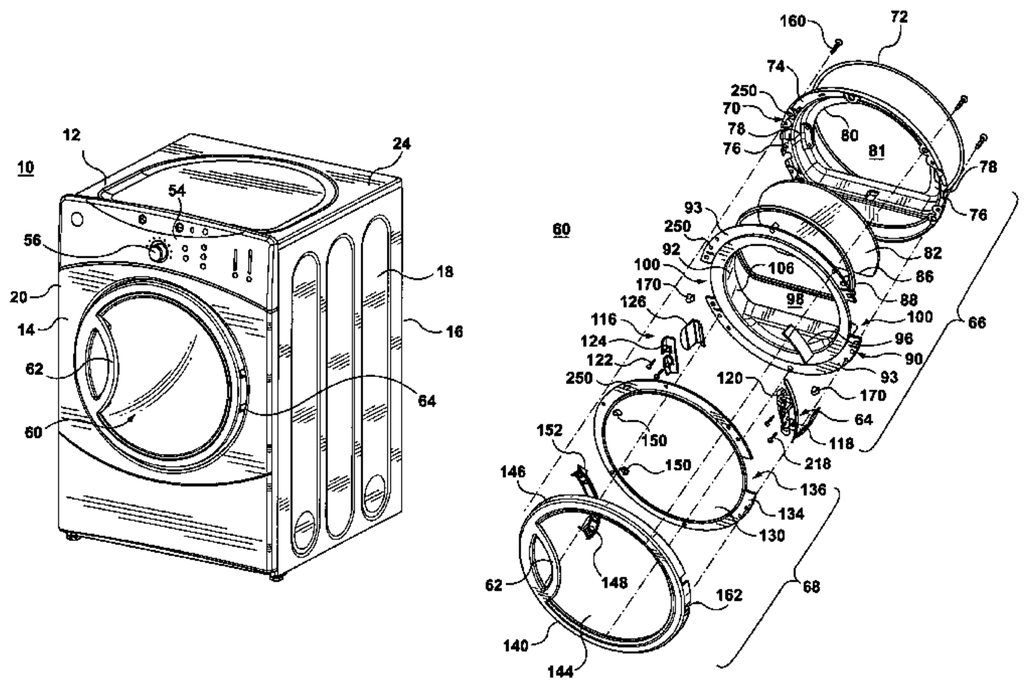
Assistant Examiner—Corey Hall

(57) **ABSTRACT**

A clothes dryer door assembly with a viewing window is adapted to be reversibly mounted to a clothes dryer cabinet and has an inner door assembly supporting an inner window and an outer door assembly supporting an outer window. The inner door assembly removably carries a hinge and the outer door assembly is removably secured with the inner door assembly. In order to reverse the door, the outer door assembly is removed from the inner door assembly and rotated 180 degrees. The hinge is removed from the inner door assembly and re-positioned 180 degrees on the inner door assembly. The outer door assembly is then reattached to the inner door assembly. This reversing of the door assembly of the present invention does not require complete disassembly of either of the inner or outer door assemblies.

24 Claims, 8 Drawing Sheets



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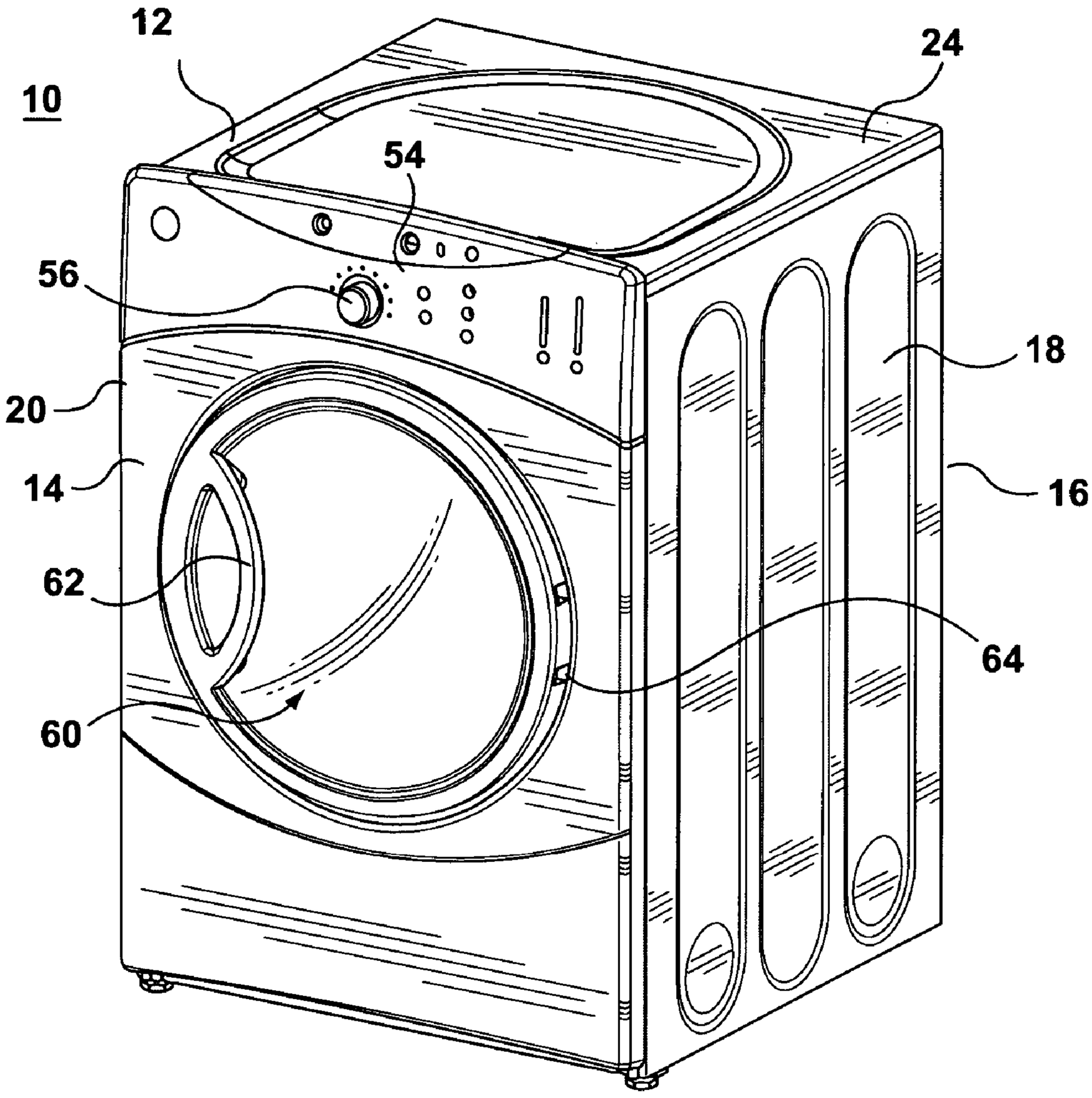

FIG. 1

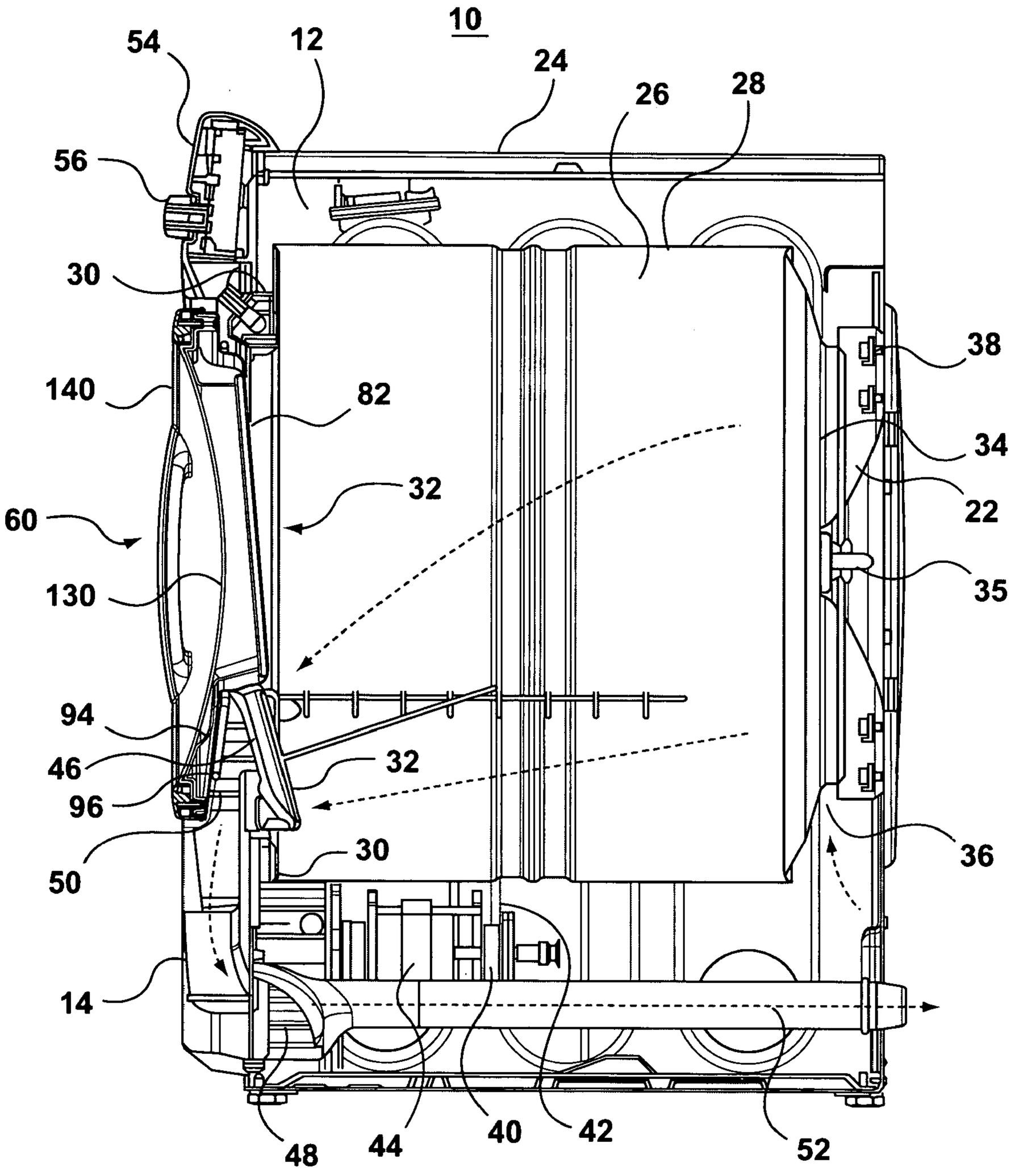
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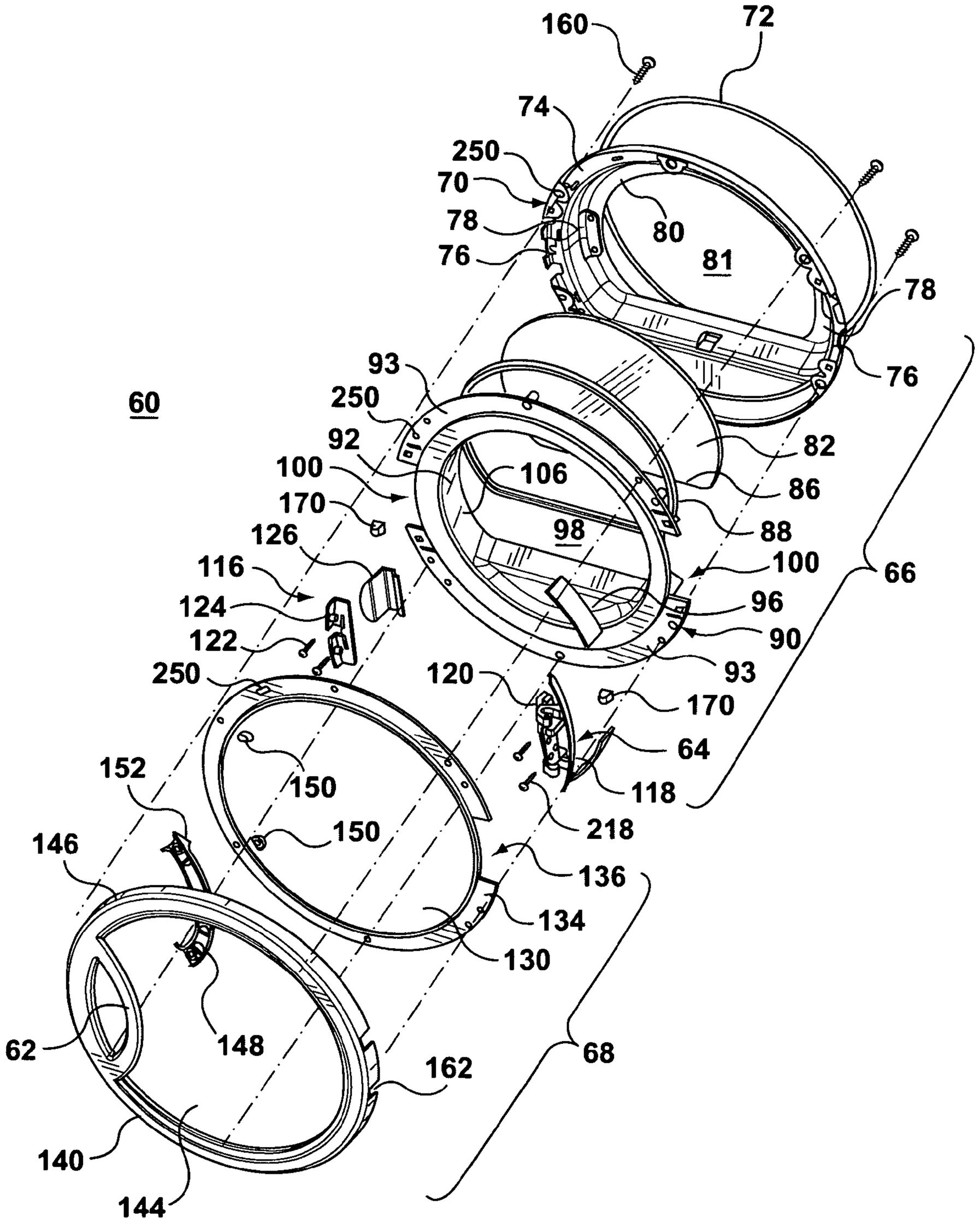
FIG. 2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100
116
66
124
96
122
90
250
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62
148
162
68
140
144

FIG. 3

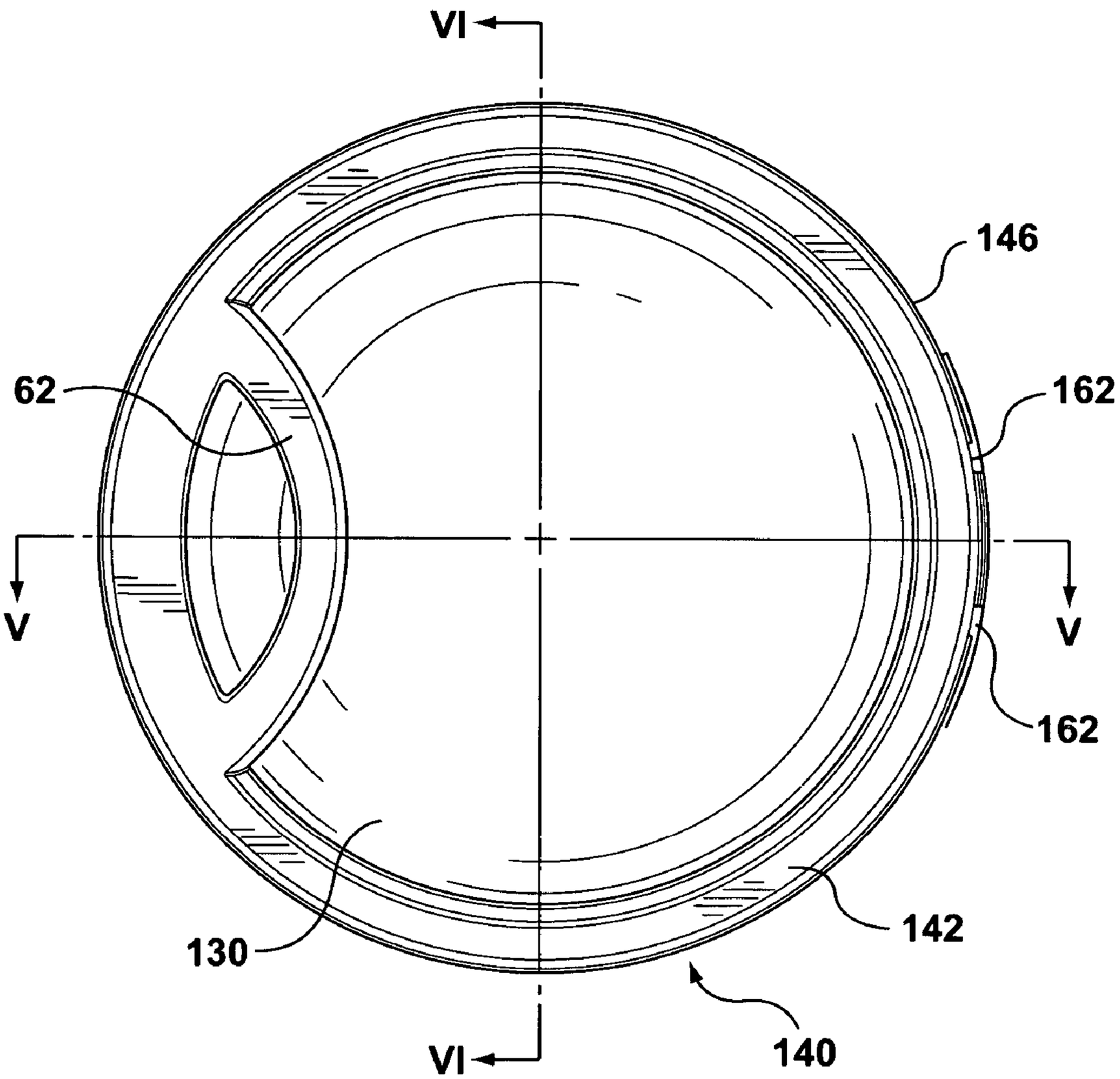


FIG. 4

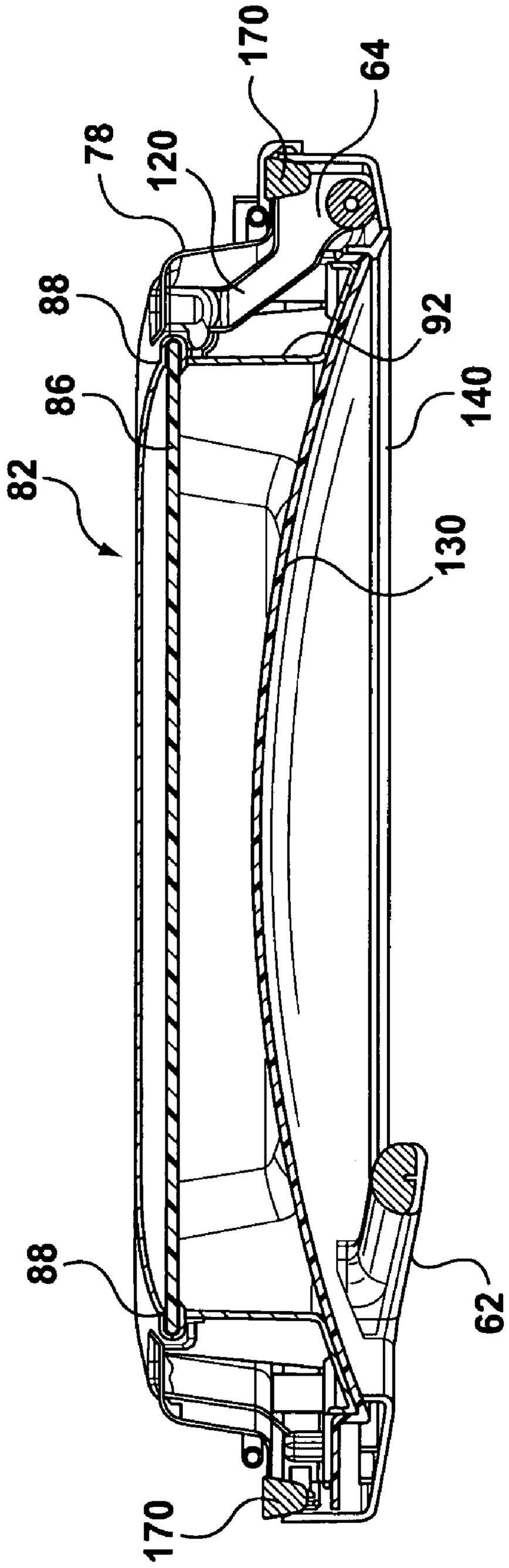
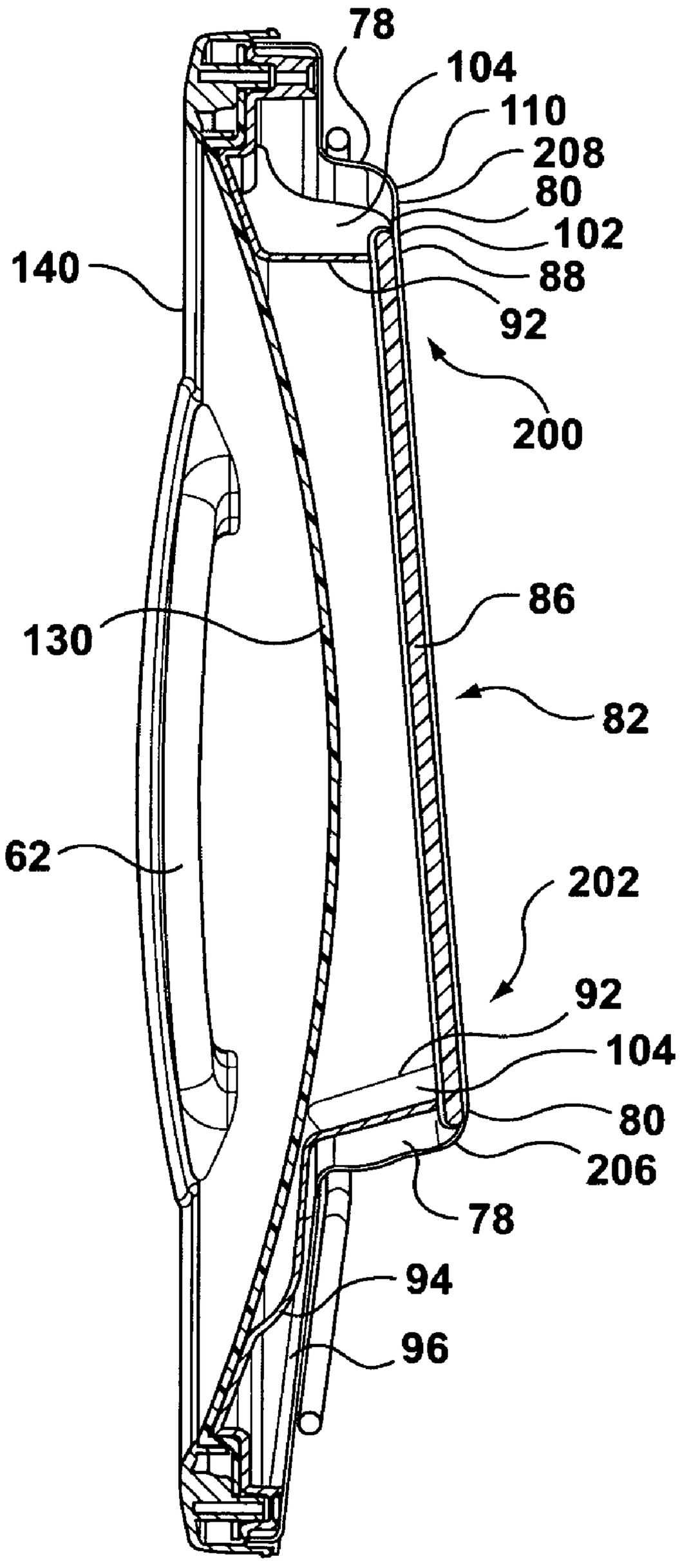


FIG. 5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104
110
208
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102
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94
96

FIG. 6

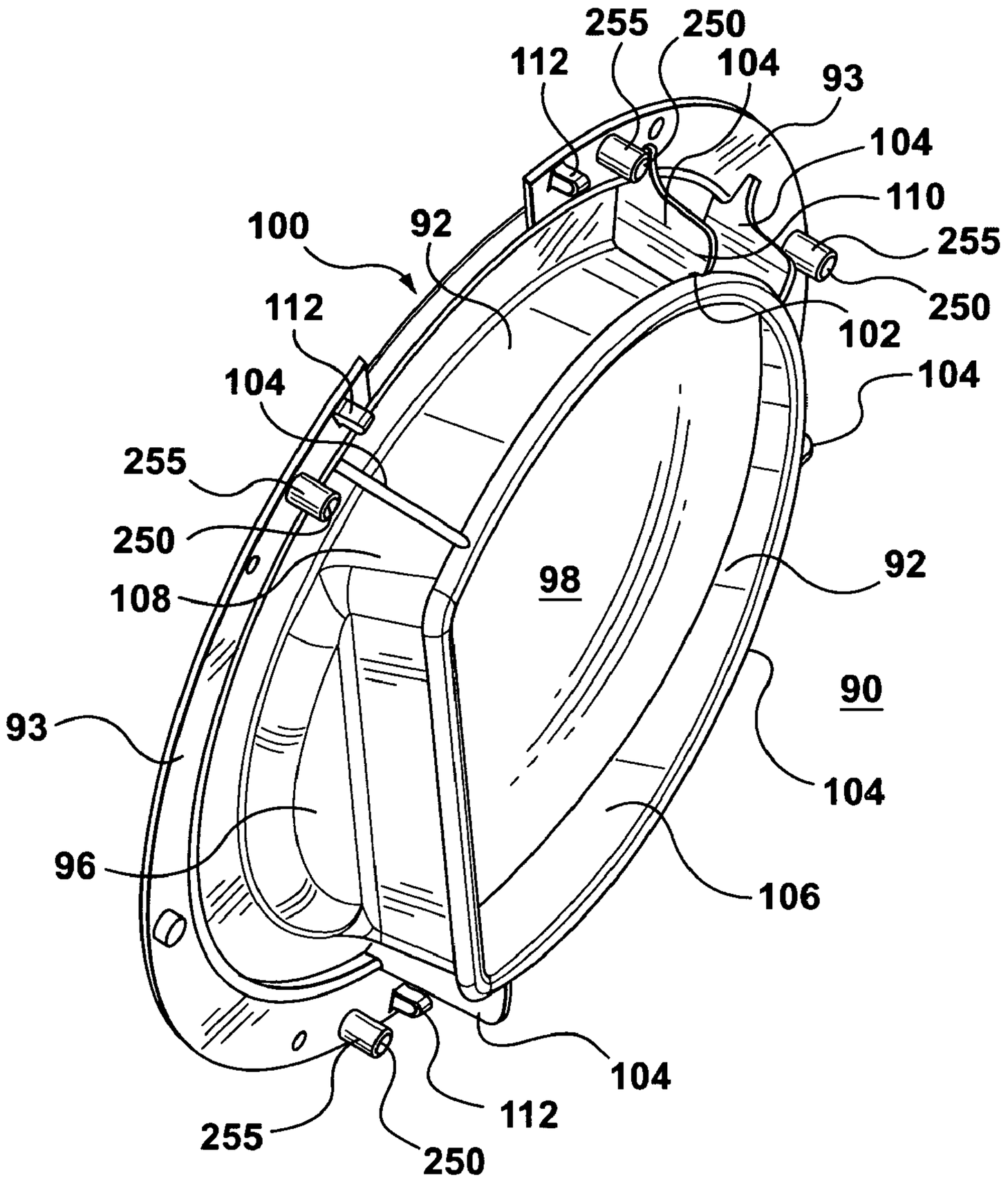
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FIG. 7

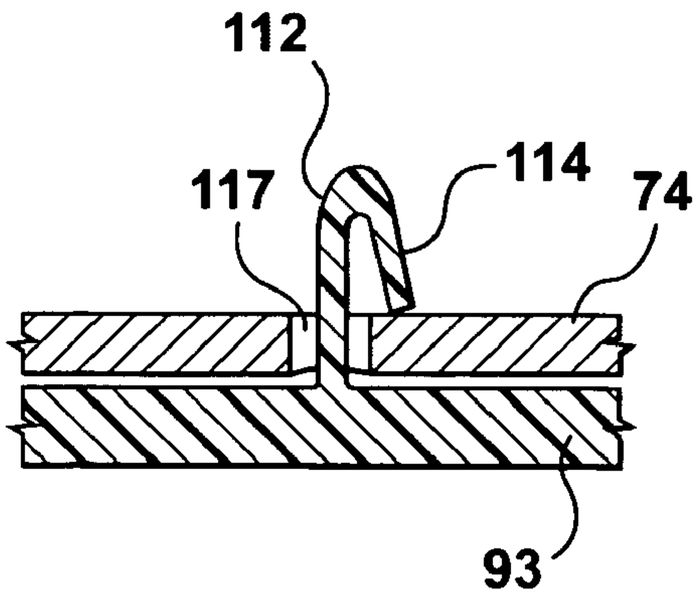
112
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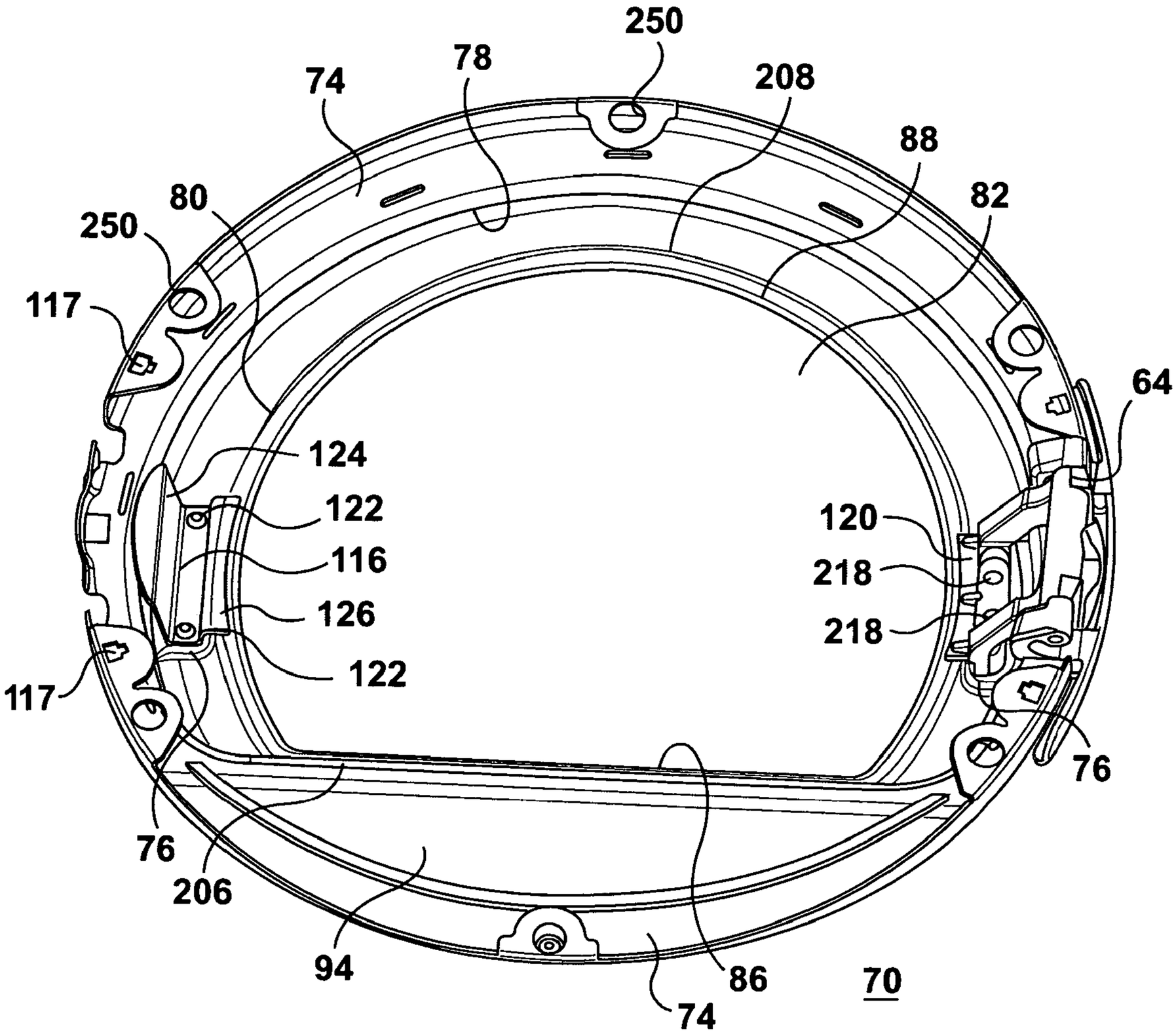
FIG. 8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250
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122
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117
76
76
206
94
86
70
74

FIG. 9

CLOTHES DRYER REVERSIBLE DOOR ASSEMBLY

RELATED APPLICATION

The present application is related to Applicants commonly assigned U.S. patent application Ser. No. 11/430,934 filed concurrently herewith and entitled Clothes Dryer Door Assembly.

FIELD OF THE INVENTION

The present invention relates to clothes dryers, and more particularly relates to a clothes dryer door assembly with a viewing window that is adapted to be reversibly mounted to a clothes dryer cabinet.

BACKGROUND OF THE INVENTION

A domestic clothes dryer typically has a cabinet including a front panel with an access opening through which clothes are loaded and unloaded into a rotating drum. The door is mounted through one or more hinges to the cabinet front panel on one side of the access opening.

Typically, these doors are manufactured to open by pivoting out to the right or the left. While it is possible to order the door to pivot out in the direction required for the user, should the need arise by the user changing living space or laundry space in the home, it may be necessary to reverse the door and change the side to which the door pivots open. For example, the location of the washing machine relative to the dryer is fixed by pre-existing plumbing and/or dryer vent holes and this may require changing the pivot direction the door opens to facilitate transfer of clothing from the washing machine to the clothes dryer. Thus, it would be desirable to have a window dryer door that could be reversed so that it could readily be hung or mounted from either side of the access opening depending on the requirements of the particular installation. Further, it may be desirable for a manufacturer to be able to easily reverse the mounting side of the door.

For a door having a viewing window, many of these doors are port hole type doors and the clothes dryer typically has a front panel with a circular opening and a circular door jam. The dryer drum bulkhead is mounted in the dryer adjacent the panel and has a circular opening that is cropped horizontally along the bottom of the opening permitting the dryer bulkhead to provide a trap duct for receiving a filter through which air exits the dryer drum. This type of dryer construction results in the window door typically comprising an outer circular window of plastic and an inner glass window that is non-circular and is cropped to conform to the opening in the bulkhead of the dryer. Reversing the hinge for this type of dryer door involves the disassembly of the door, reversing of the hinge and then re-assembly of the complete door.

Clearly, there is a need for an improved window type dryer door that may be converted to open from an opposite side of the dryer that does not involve the complete disassembly of the door.

BRIEF DESCRIPTION OF THE INVENTION

The present invention relates to a clothes dryer door assembly with a viewing window that is adapted to be reversibly mounted to a clothes dryer cabinet. The door assembly comprises an inner door assembly supporting an inner window and an outer door assembly supporting an outer window. The inner door assembly removably carries a hinge and the outer door assembly is removably secured with the inner door assembly. In order to reverse the door, the outer door assembly is removed from the inner door assembly. The hinge is removed from the inner door assembly and re-positioned 180 degrees on the inner door assembly. The outer door assembly is then rotated 180 degrees and reattached to the inner door assembly. The reversing of the inner door assembly relative to the outer door assembly of the present invention does not require disassembly of either the inner and outer door assemblies.

In accordance with a method of the present invention, the door assembly may be reversibly mounted to a clothes dryer cabinet by the steps of:

removing the door assembly at the hinge from the clothes dryer cabinet,

removing the outer door assembly from the inner door assembly,

removing the hinge from the inner door assembly and re-securing the hinge on the inner door assembly rotated 180 degrees from an initial position,

re-attaching the outer door assembly to the inner door assembly; and,

re-attaching the door assembly at the hinge to the clothes dryer cabinet.

In an embodiment of the door assembly where the outer door assembly comprises a handle mounted to one side of the door, the method of the invention further comprises, prior to the step of re-attaching the outer door assembly, the step of rotating the outer door assembly relative to the inner door assembly to rotate the handle to another side of the door. The rotation of the outer door assembly to the inner door assembly may be a 180 degrees rotation.

In an embodiment of the door assembly where the inner door assembly further removably carries a retainer disposed 180 degrees from the hinge, the method further comprises, prior to re-attaching the outer door assembly to the inner door assembly, the step of removing the retainer from the inner door assembly and re-securing the retainer on the inner door assembly rotated 180 degrees from an initial position.

In one embodiment of the invention there is provided a door assembly adapted to be mounted in alternate positions on the front panel of a clothes dryer cabinet so that the door assembly can be configured to be opened from either left or right side. The door assembly comprises an inner door assembly. The Inner door assembly comprises an inner door frame support for supporting an inner window, a mask frame secured to the inner door support frame for masking the inner door frame, and a hinge structure removably secured in one of two first positions to the inner door frame support. The door assembly comprises an outer door assembly removably secured in one of two second positions to the inner door assembly. The outer door assembly comprises an outer window secured to an outer peripheral cover. The cover covers the hinge structure, the mask frame and the inner door frame support when the outer door assembly is secured to the inner door assembly.

In one embodiment of the invention there is provided a door assembly adapted to be mounted in alternate positions on the front panel of a clothes dryer cabinet so that the door assembly can be configured to be opened from either left or right side. The door assembly comprises an inner door assembly and an outer door assembly removably secured in one of alternate positions to the inner door assembly. The inner door assembly comprises an inner door frame support having a first peripheral flange having two horizontally disposed hinge seat portions. The inner door frame support has a recessed window seat portion surrounding a first central opening defined by the

inner door frame support. The inner door assembly comprises an inner window seated in the window seat portion across the first central opening, a mask frame secured to the inner door frame support for masking the inner door support and for securing the inner window in the recessed window seat portion. A hinge structure is removably secured in one of the horizontally disposed hinge seat portions and comprises a hinge element extending from the inner door assembly. The outer door assembly comprises an outer window attached to an outer cover. The cover comprises a second central opening and a second peripheral flange adapted to cover the hinge structure, the mask frame and the first peripheral flange of the inner door frame support. The second window extends across the second central opening of the cover.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the nature and objects of the present invention reference may be had by way of example to the accompanying diagrammatic drawings.

FIG. **1** is a perspective view of an exemplary clothes dryer that may benefit from the present invention;

FIG. **2** is a side sectional view of an exemplary clothes dryer that may benefit from the present invention;

FIG. **3** is an exploded view of the clothes dryer door assembly of the present invention;

FIG. **4** is a front view of the door assembly of FIG. **3**;

FIG. **5** is a sectional view of the door assembly taken through lines V-V of FIG. **4**;

FIG. **6** is a sectional view of the door assembly taken through lines VI-VI of FIG. **4**;

FIG. **7** is a rear perspective view of the mask frame of the door assembly;

FIG. **8** is an enlarged view showing the connection made by the barb-like connectors of the present invention; and,

FIG. **9** is an inside perspective view of the inner door frame support, inner window, the hinge and retainer.

DETAILED DESCRIPTION OF THE INVENTION

FIGS. **1** and **2** show perspective and side sectional views of an exemplary clothes dryer **10** that may benefit from the present invention. The clothes dryer includes a cabinet or a main housing **12** having a front panel **14**, a rear panel **16**, a pair of side panels **18** and **20** spaced apart from each other by the front and rear panels, and a top cover **24**. Within the housing **12** is a drum or container **26** mounted for rotation around a substantially horizontal axis. A motor **44** rotates the drum **26** about the horizontal axis through, for example, a pulley **40** and a belt **42**. The drum **26** is generally cylindrical in shape, has an imperforate outer cylindrical wall **28**, and is closed at its front by a bulkhead wall or bearing **30** defining an opening **32** into the drum **26**. Clothing articles and other fabrics are loaded into the drum **26** through the opening **32**. A plurality of tumbling ribs (not shown) are provided within the drum **26** to lift the articles and then allow them to tumble back to the bottom of the drum as the drum rotates. The drum **26** includes a rear wall **34** rotatably supported within the main housing **12** by a suitable fixed bearing **35**. The rear wall **34** includes a plurality of holes (not shown) that receive hot air that has been heated by a heater such as electrical heating elements **38** in the heater housing **22**. The housing **22** receives ambient air via an inlet **36**. Although the exemplary clothes dryer **10** shown in FIG. **1** is an electric dryer, it could just as well be a gas dryer having a gas burner. The heated air is drawn from the drum **26** by a blower fan **48** which is also driven by the motor **44**. The air passes through a screen filter **46** which traps any lint particles. As the air passes through the screen filter **46**, it enters a trap duct **50** and is passed out of the clothes dryer through an exhaust duct **52**. After the clothing articles have been dried, they are removed from the drum **26** via the opening **32**. The dryer has a control panel **54** with touch and or dial controls **56** whereby a user can control the operation of the dryer.

Clothes are inserted into, and removed from, the drum **26** through opening **32**. Opening **32** is shown closed by a window or port-hole like door **60**. Door **60** has a handle **62** for pivotally opening the door about hinge **64**.

In accordance with the present invention, the assembly of the door **60** is now described with respect to FIGS. **3** through **9**. The door assembly **60** includes four peripheral flanges **74**, **142**, **134** and **93**. The first peripheral flange is peripheral flange **74**. The second peripheral flange is peripheral flange **142**. The third peripheral flange is peripheral ring-like flange **134**. The fourth peripheral flange includes two arcuate peripheral flanges **93**. In FIG. **3**, the door assembly **60** is shown to comprise an inner door assembly **66** and an outer door assembly **68**. The inner door assembly **66** comprises an inner door frame support **70**. The inner door frame support is made from a steel or stainless steel material. The inner door frame support **70** is shown in perspective view in FIG. **9** with the inner window **82**. Backed onto the inner door frame support **70** is a gasket **72** which forms a seal with a clothes dryer cabinet **12** when the door **60** is closed. The inner door frame support **70** comprises first peripheral flange **74** that has two horizontally disposed or alternate hinge seat portions **76**. The peripheral flange **74** comprises a circular flange that has a first collar **78** depending rearwardly therefrom. The collar **78** defines a recessed window seat portion **80** in the form of a lip portion. The recessed seat portion **80** surrounds a first central opening **81** in the inner door frame support **70**.

The inner door assembly **66** further comprises an inner window **82**. The inner window **82** comprises a flat glass piece which is circular in shape and has a truncated or cropped lower edge portion **86**. In alternative embodiments, the glass may be a molded glass. The peripheral edge of the glass is surrounded by a gasket **88**. The window **82** is adapted to be seated within the recessed seat portion **80** of the inner door frame support **70** so as to extend across the first central opening **81**.

The inner door assembly **66** further comprises a mask frame **90** that is secured with the inner door frame support **70** to secure the window **82** in place in the window seat portion **80**. The mask frame **90** is illustrated as a separate part in FIG. **7** and has a collar **92** that depends rearwardly from the two arcuate peripheral flanges **93**. The arcuate flanges **93** are adapted to overlay the peripheral flange **74** of the inner door frame support **70** and the mask collar **92** is adapted to overlay the collar **78** of the inner door frame support **70**. The purpose of the mask frame **90** is two fold. Its first purpose is to mask from view the structure of the inner door frame support **70**. The mask frame **90** has a lower portion **94** that also masks from view the lower portion **96** of the inner door frame support **70**. It should be understood that the lower portion **94** of the inner door support frame **70** below collar **78** overlays the lint filter trap **50** between the front panel **14** and the bulk head wall **30** of the dryer when door **60** is closed (see FIG. **2**). The second purpose of the mask frame **90** is to hold the window **62** in place in the recessed seat portion **80**.

The mask frame **90** defines a second central opening **98**. The mask frame **90** has two cut out slots **100** between the flanges **93**. These cut out slots **100** are positioned adjacent to the horizontally disposed hinged seat portions **76** when the inner door assembly **66** is assembled. From FIG. **7**, it can be

seen that the collar **92** of mask frame **90** extends rearwardly from the peripheral flanges **93**. The collar **92** comprises an inner surface **106** and an outer surface **108**. The outer surface **108** is positioned to face towards the first collar **78** of the inner door frame support **70**. The mask frame **90** further comprises rearwardly extending rib spacers **104** that are attached to the outer surface **108** of the collar **92**. These spacers **104** have a tip **110** with a cut out section **102**. The tip **110** together with the cut out section **102** of the ribs **104** act to secure the inner window **82** within the recessed seat portion **80** of the inner door frame support **70** when the mask frame **90** is secured to the inner door frame support **70**. In FIG. **6**, it can also be seen that the spacer or ribs **104** have a tip portion **110** with its cut out slot **102** that surrounds and engages the gasket **88** of the inner window **82**.

Referring to FIG. **7**, the peripheral flanges **93** of the mask frame **90** each comprise a plurality of barb like connectors **112**. As better seen in FIG. **8**, the barb like connector **112** has a hook portion **114** that passes through an opening **117** in the first peripheral flange **74** of the inner door frame support **70**. As the barb connector **112** passes through opening **117**, the hook portion **114** is compressed and then springs open to lock the peripheral flanges **93** relative to the peripheral flange **74**. In this way the barb connectors **112** in co-operation with the openings **117** act to assemble the mask frame **90** relative to the inner door frame support **70** with the window **82** sandwiched between the mask frame **90** and the inner door support frame **70**. As shown in FIG. **7**, the rear face of the flanges **93** have spacers **255** with pass through apertures **250**. Spacers **255** together with barb connectors **112** maintain the relative positioning of the mask frame **90** and the inner door frame support **70**. Hence the connectors **112** and the openings **117** co-operate to assemble the inner door assembly **66** without the use of any fasteners.

Referring to FIG. **6** the distance the recesses of the collars **78** and **92** rearwardly extend is greater at the lower portion **202** of the door than at the upper portion **200** of the door. This results in the recessed window seat portion **80** sloping downwardly and rearwardly to present a lower seat portion **206** thereof that is more recessed than the upper seat portion **208**. As a result the inner window **82** seated in the recessed seat portion **80** slopes downwardly and rearwardly towards the interior of the dryer cabinet. The lower seat portion **80** extends over the lint trap **46** (as best seen in FIG. **2**). This results in a door effectively covering the opening for the filter **46** in the trap duct **50** while at the same time optimizing volume within the dryer drum.

Referring to FIGS. **3**, **5**, and **9**, the inner door assembly **66** further comprises hinge **64** and retainer **116**. The hinge structure **64** is secured to the inner door frame support **70** by fasteners **218** that pass through openings in the hinge structure **64** and into corresponding openings in the seat portions **76** of the inner door support frame **70**. The hinge structure **64** is secured in one of the horizontally disposed hinged seat portions **76** of the inner door frame support **70**. The hinge structure **64** has a first hinge element **118** (FIG. **3**) that extends from the inner door assembly **66** for securement with the front panel **14** and/or bulk head **30** of the dryer adjacent the opening **32**. As shown in FIGS. **5** and **9**, the hinge structure **64** has a second hinge element **120** that is adapted to engage the inner window **82** at the gasket **88** to secure the window **82** in the recessed seat portion **80**. The hinge element **120** of the hinge structure **64** extends rearwardly between the collar **78** of the inner door frame support **70** and collar **92** of the mask frame **90**.

In a similar manner the retainer **116** is removably mounted by fasteners **122** in the other one of the horizontally disposed hinged seat portions **76** of the inner door support frame. The retainer **116** comprises a cover **124** and a retainer portion **126**. The retainer portion **126** is adapted to engage the gasket **88** of the inner window **82** to positively hold the window **82** in the recessed seat portion **80**. In the detailed description the hinge **64**, retainer **116** and mask frame **90** act to hold the window **82** in place on the inner door frame support **70**. It should be understood that either the mask frame **90** or the hinge **64** and retainer **116** may be used mutually exclusive of each other to secure the window **82** in place on the inner door frame.

Referring to FIG. **3**, the door assembly **60** further includes an outer door assembly **68**. The outer door assembly **68** comprises an outer window **130**. The outer window **130** comprises a concave circular shaped central portion surrounded by peripheral ring like flange **134**. The flange **134** extends substantially around the circular concave center portion except for the cut out section **136**. Cut out section **136** is located adjacent the hinge element structure **64**. The outer window **130** comprises a plastic and preferably comprises a transparent polycarbonate material. The outer door assembly **68** further comprises a cover **140** that has peripheral flange **142** comprising a ring flange with a central opening **144**. The cover **140** has a depending rim **146** that depends from its peripheral flange **142**. The peripheral flange **142** is further provided with an outer handle portion shown as **62**. The outer door assembly **68** further comprises a structural handle portion **148** that is mounted by two fasteners **156** passing through apertures **150** in the outer window **130**, apertures **152** in the handle portion **148** and into receiving studs (not shown) in the reverse face of the outer handle portion **62**. The fasteners **156** effectively secure the outer window **130** to the cover **140** and thereby complete the assembly of the outer door assembly **68**. The outer window **130** provides further structural support for the door assembly **60**.

The peripheral ring like flange **134** of the outer window **130** is nested in the ring like peripheral flange **142** and the rim **146** of the cover **140**. The flange **134** is substantially coextensive with the peripheral flange **142** of the cover **140** except for the cut out portion **136** that is provided to allow the cover flange **142** to overlay the hinge structure **64**.

To complete the assembly of the door **60** the inner door **66** is secured to the outer door **68** by a plurality of fasteners **160** that pass through aligned apertures **250** in the peripheral flange **74** of the inner door frame support **70**, the peripheral flanges **93** of the mask frame **90**, the peripheral flange **134** of the outer window **130** and into receiving studs (not shown) found on the rear surface of the peripheral flange **142** of the cover member **140**.

Additionally latches or spacers **170** (see FIGS. **3** and **5**) are provided to mount and orientate the hinge element **164** and the retainer portion **126** and cover **124** in the respective horizontally disposed seat portion **76**.

Referring to FIG. **4**, the front cover **140** covers the appearance of the door such that the central opening **144** of the front cover and the central opening **98** of the mask frame **90** are covered by the concave shaped circular central portion of the outer window **130**. Disposed horizontally opposite to the handle **62** on the rim **146** of the cover **140** are two slotted openings **162**. Openings **162** permit for the first hinge element **118** to extend from the door assembly **60** for connection with the clothes dryer cabinet.

The construction of the clothes dryer door assembly **60** allows for a the mask frame **90** to be secured to the inner door frame support **70** so as to hold the inner window **82** in place without having to utilize additional fasteners other than the hinge **64** and the retainer **126** to hold the window **82** in place. Further, the door structure of the present invention is adapted

for reversibility or for rotation of the outer door assembly **68** relative to the inner door assembly **66**.

The door assembly **60** is adapted to be mounted in alternate positions on the front panel **14** of the clothes dryer cabinet **12** so that the door assembly **60** can be configured to open either from the left or ride side. As shown in FIG. **1** the door assembly **60** opens from the left side of the dryer **10**. If one were to reverse the opening of the door this can be done by removing the door assembly **60** at the hinge structure **64** from the clothes dryer cabinet **12**. Next, the fasteners **160** are removed so that the outer door assembly **68** is removed from the inner door assembly **66**. Thereafter the hinge structure **66** and the retainer **116** are removed by removing fasteners **218** and **122**. The hinge **64** and the retainer **116** are then rotated 180 degrees from their initial position into the other or alternate horizontally disposed seat portion **76**. Then the hinge structure **64** and the spacer **126** are reattached by fasteners **218** and **122**. The outer door assembly **68** is then rotated 180 degrees relative to the inner door assembly **66**. The fasteners **160** are reinserted to secure the outer door assembly **68** to the inner door assembly **66**. This is facilitated by the apertures **250**, through which the fasteners **160** pass, being aligned symmetrical to each other about the horizontal axis extending through the door assembly **60**. This symmetrical or mirroring arrangement facilitates placement of the outer door assembly **68** relative to the inner door assembly **66** at 180 degrees disposed from its previous position. The hinge structure **64** is then reattached to the dryer housing **12** to complete the reversing of the door relative to the dryer **10**. Rotation of the outer door assembly **68** relative to the inner door assembly **66** permits for the dryer to be changed between left and right opening doors without completely disassembling each of the inner door assembly **66** and the outer door assembly **68** while at the same time maintaining the lower portions **94** and **96** of the inner drum support **70** and the mask frame **90** in the same orientation adjacent the lint trap duct **50**.

While the invention has been described in terms of various specific embodiments, those skilled in the art will recognize that the invention can be practiced with modifications within the spirit and scope of the present invention disclosed herein.

What is claimed is:

1. A door assembly adapted to be mounted in alternate positions on the front panel of a clothes dryer cabinet so that the door assembly can be configured to be opened from either left or right side, said door assembly comprising:

an inner door assembly comprising an inner door frame support for supporting an inner window, a mask frame secured to the inner door support frame for masking the inner door frame, and a hinge structure removably secured in one of two first positions to the inner door frame support; and,

an outer door assembly removably secured in one of two second positions to the inner door assembly, the outer door assembly comprising an outer window secured to an outer peripheral cover, the cover covering the hinge structure, the mask frame and the inner door frame support when the outer door assembly is secured to the inner door assembly.

2. The door assembly of claim **1** wherein the inner window is flat and the mask frame locates the inner window relative to the inner door frame support when the mask frame is secured to the inner door frame support.

3. The door assembly of claim **2** wherein the inner door assembly further comprises a retainer removably secured to the inner door support frame in the other of the two first positions.

4. The door assembly of claim **1** wherein the cover further comprises a handle positioned in horizontal opposing relation to positioning of the hinge structure.

5. A door assembly adapted to be mounted in alternate positions on the front panel of a clothes dryer cabinet so that the door assembly can be configured to be opened from either left or right side, said door assembly comprising:

an inner door assembly and an outer door assembly removably secured in one of alternate positions to the inner door assembly,

the inner door assembly comprising an inner door frame support having a first peripheral flange having two horizontally disposed hinge seat portions and the inner door frame support having a recessed window seat portion surrounding a first central opening defined by the inner door frame support, the inner door assembly comprising an inner window seated in the window seat portion across the first central opening, a mask frame secured to the inner door support frame for masking the inner door frame support and for locating the inner window in the recessed window seat portion, a hinge structure removably secured in one of the horizontally disposed hinge seat portions and comprising a hinge element extending from the inner door assembly, and,

the outer door assembly comprising an outer window attached to an outer cover, the cover comprising a second central opening and a second peripheral flange adapted to cover the hinge structure, the mask frame and the first peripheral flange of the inner door frame support, and the second window extending across the second central opening of the cover.

6. The door assembly of claim **5** wherein the inner door assembly further comprises a retainer removably secured in the other one of the horizontally disposed hinge seat portions, end the cover covering the retainer.

7. The door assembly of claim **6** wherein the first peripheral flange of the inner door support is ring shaped, the second peripheral flange of the cover is ring shaped, and the cover further comprises a rim depending rearwardly from the second peripheral flange and overlaying edge portions of the mask structure and the inner door frame support, and the depending rim having at least two horizontally disposed openings through one of which the hinge element extends from the door assembly.

8. The door assembly of claim **7** wherein the outer window is circular in shape and has a third peripheral flange fastened to the second peripheral flange of the cover.

9. The door assembly of claim **8** wherein the third peripheral flange of the outer window is an arcuate flange that is nested in the second peripheral flange and the rim, the third peripheral flange is substantially co-extensive with the second peripheral flange of the cover except where the second peripheral flange overlays the hinge structure.

10. The door assembly of claim **9** wherein the mask frame comprises a pair of opposing fourth peripheral flanges defining horizontally disposed cut out slots adjacent the horizontally disposed hinge seat portions, the fourth peripheral flanges each has a plurality of barb connectors extending rearwardly thereof, and the first peripheral flange of the inner door frame support has corresponding recesses adapted to receive and retain the barb connectors to thereby secure the mask frame with the inner door frame support.

11. The door assembly of claim **10** wherein the mask frame further comprises a recessed collar extending rearwardly from inner edges of the fourth peripheral flanges towards the window seat portion, and the collar having an inner surface and an outer surface, the outer surface comprising a plurality

of rib spacers spaced about the collar and having tip portions adapted to secure the inner window in the recessed window seat portion.

12. The door assembly of claim **11** wherein the inner door assembly is secured to the outer door assembly by fasteners passing from the inner door frame support through aligned openings in the first peripheral flange of the inner door frame support, the fourth peripheral flanges of the mask frame, and the third peripheral flanges of the outer window and into aligned studs protruding from an inside surface of the second peripheral flange of the cover.

13. The door assembly of claim **12** wherein the aligned openings and studs are arranged in two patterns that are symmetrically disposed about a centerline extending horizontally across the door assembly.

14. The door assembly of claim **5** wherein the mask frame comprises a pair of opposing fourth peripheral flanges defining horizontally disposed cut out slots adjacent the horizontally disposed hinge seat portions, the fourth peripheral flanges each has a plurality of barb-like connectors extending rearwardly thereof, and the first peripheral flange of the inner door frame support has corresponding recesses adapted to receive and retain the barb connectors to thereby secure the mask frame with the inner door frame support.

15. The door assembly of claim **14** wherein the mask frame further comprises a recessed collar extending rearwardly from inner edges of the fourth peripheral flanges towards the window seat portion, and the collar having an inner surface and an outer surface, the outer surface comprising a plurality of rib spacers spaced about the collar and having tip portions adapted to secure the inner window in the window seat.

16. The door assembly of claim **5** wherein the inner door assembly is secured to the outer door assembly by a plurality of fasteners passing through aligned apertures in the inner door frame support, the mask frame, and the outer window, and into aligned studs protruding from an inside surface of the cover.

17. The door assembly of claim **5** wherein the outer cover comprises a handle secured to the outer window by fasteners passing through the outer window into studs in the handle.

18. The door assembly of claim **7** wherein the outer cover comprises a handle secured to the outer window by fasteners passing through the outer window into studs in the handle.

19. The door assembly of claim **13** wherein the outer cover comprises a handle secured to the outer window by fasteners passing through the outer window into studs in the handle.

20. The door assembly of claim **16** wherein the outer cover comprises a handle secured to the outer window by fasteners passing through the outer window into studs in the handle.

21. The door assembly of claim **6** wherein each of the hinge structure and the retainer is removably secured to the inner door frame support by at least one fastener extending therethrough and into the inner door frame support.

22. A method for reversibly mounting to a clothes dryer cabinet a door comprising an inner door assembly supporting an inner window and removably carrying a hinge, an outer door assembly supporting an outer window and removably attached to the inner door assembly, and removably carrying a retainer disposed 180 degrees from the hinge, the method comprising the steps of:

removing the door assembly at the hinge from the clothes dryer cabinet,

removing the outer door assembly from the inner door assembly,

removing the hinge from the inner door assembly and re-securing the hinge on the inner door assembly rotated 180 degrees from an initial hinge position,

removing the retainer from the inner door assembly and re-securing the retainer on the inner door assembly rotated 180 degrees from an initial retainer position;

re-attaching the outer door assembly to the inner door assembly; and,

re-attaching the door assembly at the hinge to the clothes dryer cabinet.

23. The method of claim **22** wherein the outer door assembly comprises a handle mounted to one side of the door, and the method further comprises, prior to the step of re-attaching the outer door assembly, the step of:

rotating the outer door assembly relative to the inner door assembly to rotate the handle to another side of the door.

24. The method of claim **23** wherein the outer door assembly is rotated 180 degrees relative to the inner door assembly.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,614,162 B2
APPLICATION NO. : 11/431049
DATED : November 10, 2009
INVENTOR(S) : Pasquale Antonio Renzo

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 4, line 61, "62" should read --82--
Column 8, line 35, "end" should read --and--

Signed and Sealed this

Nineteenth Day of January, 2010

David J. Kappos

David J. Kappos
Director of the United States Patent and Trademark Office